

**Translation**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>345 P 379 PCT</b>		FOR FURTHER ACTION	See Form PCT/IPEA/416																								
International application No. <b>PCT/EP2004/006863</b>	International filing date (day/month/year) <b>24.06.2004</b>	Priority date (day/month/year) <b>03.07.2003</b>																									
International Patent Classification (IPC) or national classification and IPC <b>H01Q1/32, H01Q21/30</b>																											
Applicant <b>KATHREIN-WERKE KG</b>																											
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <table border="0"> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>				<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input checked="" type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand		Date of completion of this report																									
Name and mailing address of the IPEA/EP		Authorized officer																									
Facsimile No.		Telephone No.																									

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006863

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-9 \_\_\_\_\_ received by this Authority on 21.01.2005 with letter
- nos.\* \_\_\_\_\_ received by this Authority on of 17.01.2005
- ☒ the drawings:
- sheets 1-3 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 9-12 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-12	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-12	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

1. The present report refers to the following documents:

D1: DE 101 33 295 A (cited in the application)  
D2: US 6 441 792 B1  
D3: US 2002/175879 A1  
D4: DE 101 44 399 A  
D5: KRONBERGER R P ET AL: "Array antenna principle applied to modern car antennas for mobile communication", XP010292169  
D6: WO 01/80366 A (cited in the application).

2. INDEPENDENT CLAIM 1

- 2.1 The present application does not meet the inventive step requirements of PCT Article 33(1) because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).

- 2.2 According to the description (page 3, line 30, to page 4, line 8) the invention solves the problem of combining the four antennas specified in the

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main claim into a single antenna requiring as little space as possible.

This problem is known from document D1 and comprehensively solved therein (see document D1, claims 1-6, figure 2).

- 2.3 The subject matter of claim 1 differs from that known from document D1 in that in claim 1 the antennas are disposed on the chassis in a specified sequence. However, it is not clear to a person skilled in the art why precisely the claimed sequence would lead to a reduced space requirement (PCT Rule 6.3(a)). Consequently, this difference cannot substantiate an inventive step.
- 2.3.1 Proceeding from document D1, figure 2a, a person skilled in the art would arrive precisely at claim 1, by moving the GPS antenna (15 in D1) either between the antennas (16) and (17) or between the antennas (17) and (18). This change in the arrangement cannot be expected to have a special technical effect, nor is such an effect mentioned in the application. A person skilled in the art would be motivated to move the GPS antenna in document D1 by, for example, document D5, paragraph 4, so as to reduce the influence of the antennas (16) and (18) on each other.
- 2.3.2 Depending on the position of the GPS antenna after the move, the antennas in document D1 can be assigned to those in the application in the

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

following two possible ways:

Case I:

(16) in D1 corresponds to antenna A in the application,  
(15) in D1 corresponds to antenna B in the application,  
(17) in D1 corresponds to antenna C in the application,  
(18) in D1 corresponds to antenna D in the application;

or Case II:

(18) in D1 corresponds to antenna A in the application,  
(15) in D1 corresponds to antenna B in the application,  
(17) in D1 corresponds to antenna C in the application,  
(16) in D1 corresponds to antenna D in the application.

2.3.3 Antenna (16) or (18), which in the application corresponds to antenna A, is provided for the reception of terrestrial signals, but is in the form of a separate antenna, exactly as specified in the characterizing part.

2.3.4 After the GPS antenna in document D1 has been moved as described in 2.3.1, the distances between the antennas are similar to those given in the characterizing part of claim 1, wherein analogously to document D1, figure 2a, the distance between the edges of adjacent antennas is approximately equal.

- the centre distance between the antennas corresponding to (A) and (B) is smaller than the

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

centre distance between the antennas corresponding to (B) and (C), since the antennas corresponding to (B) and (C) are two-dimensional or three-dimensional antennas and the antenna corresponding to (A) extends primarily vertically;

- the centre distance between the antennas corresponding to (A) and (B) is smaller than the centre distance between the antennas corresponding to (C) and (D), since the antennas corresponding to (A) and (D) are antennas extending in the same, substantially vertical, direction, and, in the case of the antennas corresponding to the two-dimensional or three-dimensional antennas (B) and (C), the antenna corresponding to antenna (C) extends further in the horizontal plane.

2.4 Since on the one hand the comprehensive solution to the problem explicitly stated in document D1 is likewise already known from document D1, and on the other hand a person skilled in the art proceeding from document D1 would arrive at the subject matter of claim 1 without being inventive, the application does not contain anything that could serve as a basis for an inventive claim within the meaning of PCT Article 33(3).

2.5 For the sake of completeness, the examiner wishes to point out that claim 1 likewise does not satisfy the PCT requirements for inventive step relative to each one of documents D2 to D4.

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3.	DEPENDENT CLAIMS 2-9
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	<p>Claims 2-9 do not contain any features which, combined with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step.</p>
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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. VI

Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
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## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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See Supplemental Sheet